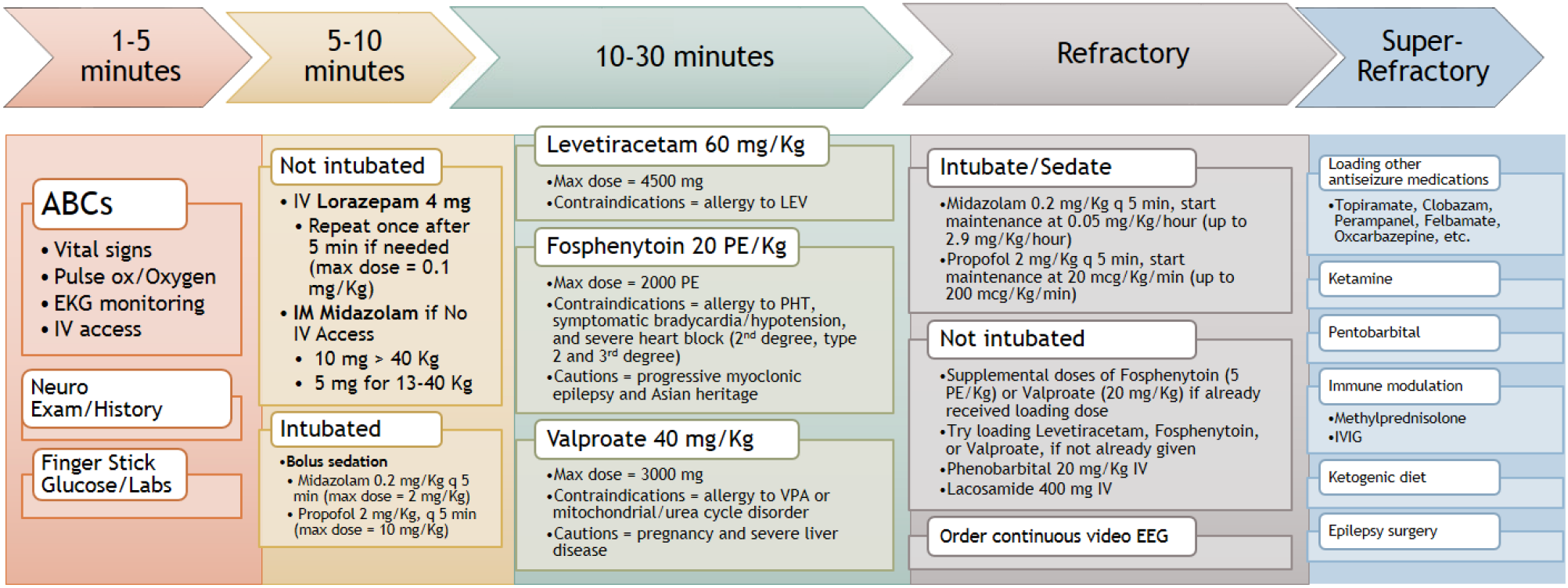
Managing Status Epilepticus/Imminent Status Epilepticus in Adults
(Recurrent seizures within 1 hour or continuous seizure over 5 minutes)



- ✓ Treating early with a recommended dose of a benzodiazepine reduces the chance of intubation and death.
- ✓ Lorazepam dose should be repeated after 5 minutes if still seizing (max dose 0.1 mg/Kg or 8 mg)
- ✓ Sedation in intubated patient should be rebolused every 5 minutes until seizures controlled or max load dose reached. Rebolusing sedation to get seizure control reduces the maintenance sedation dose you will need.
- ✓ Even if seizures stop with benzodiazepines, you want to load with an antiseizure medication in most cases to prevent seizure recurrence.
- ✓ Maximize effective treatments and eliminate ineffective treatments to reduce polypharmacy and medication complications. If a loading dose of a seizure medication resulting in a goal blood level does not significantly change seizure frequency, you should consider discontinuing the medication.
- ✓ This takes a team with continuous bedside monitoring (HR, RR, BP, pulse ox, EKG, neuro exam) and response to treatment. Communicating plans to nurse, pharmacist, EEG tech, and EEG reader, helps get seizures stopped sooner.

<u>Maintenance Doses</u>

Increasing or starting a maintenance seizure medication, will help to reduce seizure risk in a few days but is not a treatment for imminent status epilepticus/status epilepticus.

Levetiracetam = 2-4 g/day; Goal level 25-60 mg/L

Phenytoin = 5-7 PE/kg/day; Goal level = 15-25 ug/mL (total), 1.5-2.5 ug/mL (free)

Valproate = 30-60 mg/kg/day; Goal level = 70-120 ug/ml

Phenobarbital = 1-3 mg/kg/day; Goal level = 30-90 ug/ml

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- ✓ Checking a post-load level at 2 hours can be helpful for making sure you hit your target range, but Fosphenytoin and Valproate can be reloaded using the Supplemental Load doses in "Second Therapy Phase" in the order set if you do not have a level.
- ✓ Having an albumen level allows you to estimate free phenytoin levels (https://clincalc.com/Phenytoin/Correction.aspx).
- ✓ There is no strong evidence that trying to complete a loading dose when a patient received a portion of the recommended dose a few hours ago is as effective as giving the recommended dose, but if you have a medication level you can calculate the deficit and target recommended levels (https://www.msevans.com/epilepsy/loadingdose.html).

Sedation

- Use IV fluids and pressors to support blood pressure
- Once seizure free for 24-48 hours, taper sedation (consider decrease by 20-30% of max dose every 4-6 hours) while maintaining high therapeutic levels of antiseizure medications (ASM).
- If seizures recur on sedation, consider giving a bolus, increasing maintenance dose, and loading a new ASM.
- Continue EEG monitoring for 24 hours once seizure free off sedating medications.
- There is an increased risk for Propofol Infusion Syndrome with high doses (> 60 mcg/Kg/min) or long duration (more than 48 hours). Monitor for low blood pressure, cardiac arrhythmias on EKG, and daily labs including potassium, GFR, base excess, liver function tests, CPK, and triglyceride.

Underlying cause of status epilepticus

- If glucose < 60 give 100 mg thiamine and 50 ml of D50W IV
- Initial labs = CBC, electrolytes, ASM levels, and toxicology screen.
- MRI and lumbar puncture are often indicated.
- Magnesium (4-6 g IV) in eclampsia; Pyridoxine (5 g IV) in Isoniazid (INH) overdose; Avoid Porphyrinogenic drugs in Porphyria; Utilize ketogenic diet with avoidance of Phenobarbital in GLUT1 deficiency
- Treat likely underlying cause (encephalitis, hyponatremia, toxicity, etc.)
- New Onset Refractory Status Epilepticus (NORSE) guidelines:
    - Consider Steroids and IVIG within first 72 hours.
    - Additional testing for autoimmune, infectious, metabolic, genetic, and other etiologies.

Other ASM doses

Brivaracetam: loading dose = 100-400 mg; maintenance dose = 50-200 mg a day
Cannabidiol: 2.5 to 25 mg/kg/day divided q 12 hours
Carbamazepine: loading dose = 600-800 mg; maintenance dose = 400-1600 mg a day
Cenobamate: starting dose = 12.5; consider titration at no more sooner than every 7 days with monitoring for DRESS
Clobazam: loading dose = 20-40 mg; maintenance dose = 20-60 mg a day
Felbamate: 1200-3600 mg a day divided q 8 hours
Gabapentin: loading dose = 1200-3600 mg; maintenance dose = 2400-4800 mg a day
Oxcarbazepine: loading dose = 600-1200 mg; maintenance dose = 1200-2400 mg a day
Perampanel: loading dose = 6-12 mg; maintenance dose = 4-12 mg a day
Pregabalin: loading dose = 150-300 mg; maintenance dose = 300-600 mg a day
Topiramate: loading dose = 200-400 mg; maintenance dose = 400-600 mg a day

References:

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